

REMARKS/ARGUMENTS

Reconsideration and allowance of this application are respectfully requested. Currently, claims 1-20 are pending in this application.

Allowable Subject Matter:

The Office Action objected to claims 3-4, 9 and 15-16 as being dependent upon a rejected base claim, and held that these claims would be allowable if rewritten in independent form. By this Amendment, claims 3-4, 9 and 15-16 have been rewritten in independent form. These claims are thus allowable.

Rejections Under 35 U.S.C. §102 and §103:

Claims 1-2, 5-8, 10, 13-14 and 17-20 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Crofts et al (U.S. '533, hereinafter "Crofts"). Claims 11-12 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Crofts. Applicant respectfully traverses these rejections.

For a reference to anticipate a claim, each element must be found, either expressly or under principles of inherency, in the reference. Each element of the claimed invention is not found in Crofts. For example, the limitation "determining drive signal generation timing and drive signal termination timing of the injector from the geometric figure of the injection rate having an area corresponding to the request injection quantity," as required by independent claim 1 is not found in Crofts. Similarly, Crofts fails to disclose or even suggest "determining a drive signal generation timing and a drive signal termination timing of the injector from

the geometric figure of the injection rate having an area corresponding to the request injection quantity,” as required by independent claim 13 and its dependents.

The Office Action makes reference to paragraph [0036] and Fig. 4 of Crofts. Applicant submits that neither of these two specifically identified portions (nor any other portion) of Crofts discloses or even suggests the above-noted limitations required by independent claims 1 and 13. In particular, a fuel pressure in control volume 50 is transmitted to piezoelectric actuator 62 causing compression of piezoelectric elements. The piezoelectric actuator 62 generates voltage according to the pressure in control volume 50. (See page 4, left side of paragraph [0036]). This signal is used as a valve element lift feedback signal to control the injection timing, fuel metering and/or injection rate shape. Fig. 4 of Crofts graphically illustrates these control operations. However, Crofts fails to disclose a geometric figure (of an injection rate) on which a drive signal generation timing and a drive signal termination timing of an injector is determined.

Accordingly, Applicant respectfully requests that the rejections under 35 U.S.C. §102 and §103 be withdrawn.

Conclusion:

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions

ISHIZUKA et al.
Application No. 10/765,892
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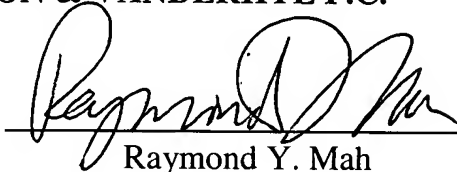
or believes that an interview would further prosecution of this application, the

Examiner is invited to telephone the undersigned.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By:

A handwritten signature in dark ink, appearing to read 'Raymond Y. Mah', is written over a horizontal line.

Raymond Y. Mah

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